

WHAT IS CLAIMED IS:

1. A method of wound treatment comprising:
 - (a) providing a transducer having a distal radiation surface arranged a distance from the surface of a wound to be treated,
 - 5 (b) causing droplets of liquid or powder to travel to an area adjacent said distal surface to provide a spray comprising waves from the transducer, and
 - (c) directing said spray to the wound surface.
2. The method of Claim 1, wherein the transducer is an ultrasound transducer.
3. The method of Claim 2, wherein the transducer operates at a frequency of from about 18 kHz to 10⁷ MHz.
4. The method of Claim 1, wherein the distal surface is positioned at least 0.1 in. from the wound surface.
5. The method of Claim 4, wherein the distal surface is positioned from about 0.1 to 20 in. from the wound surface.
6. The method of Claim 5, wherein the distal surface is from about 0.1 to 5 in. from the wound surface.
7. The method of Claim 1, wherein the liquid contacts the distal surface to produce a spray from liquid flow or drops.
8. The method of Claim 1, wherein the liquid contacts a radial surface adjacent to 20 the distal radiation surface to produce a spray from liquid flow or drops.
9. The method of Claim 1, wherein the powder contacts the distal surface to produce a spray from the powder.

10. The method of Claim 1, wherein in step (b) liquid is supplied at a different position which causes the liquid particles to be energized.

11. The method of Claim 1, wherein ultrasound waves are directed and transported to the wound through liquid or powder spray.

5 12. The method of Claim 1, wherein spray directed to the wound surface has irrigation and/or mechanical cleansing effect.

13. The method of Claim 1, wherein the liquid comprises one or more components selected from the group consisting of antibiotics, antiseptics, saline solutions, oils, and water.

14. The method of Claim 1, wherein the transducer distal surface is driven with constant frequency to create liquid spray.

15. The method of Claim 1, wherein the transducer distal surface is driven with a modulated frequency to create spray.

16. The method of Claim 15, wherein the transducer surface is driven with a sinusoidal ultrasound wave.

17. The method of Claim 16, wherein the wave form is rectangular.

18. The method of Claim 16, wherein the wave form is trapezoidal.

19. The method of Claim 16, wherein the wave form is triangular.

20. The method of Claim 1, wherein the transducer is driven with a pulsed frequency to create spray.

20 21. A transducer for generating a liquid or powder spray, said transducer having a distal radiation end having a surface, wherein the distal radiation end is irregular.

22. The transducer of Claim 21, wherein the surface has a slot or groove.

23. The transducer of Claim 21, wherein the surface has a thread.

24. The transducer of Claim 21, wherein the lateral cross-section of the distal end is circular, oval, elliptical, rectangular or trapezoidal or a combination of two or more thereof.

25. The transducer of Claim 21, wherein the longitudinal cross-section is rectangular, elliptical, oval, spherical, conical, curved, stepped, or with chamfer or a combination of two or more thereof.

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